

14.3

Writing Proportions

Do Now

Write two equivalent ratios for the given ratio.

1) $\frac{10}{15}$

2) $\frac{6}{14}$

3) $\frac{12}{20}$

Methods to check if proportional

$$\frac{8}{10} \text{ and } \frac{12}{15}$$

Multiply a number to numerator and denominator one ratio to make it equal to the other one	
Simplify both ratios to simplest form	
Convert each into decimals	

Methods to check if proportional

$$\frac{8}{10} \text{ and } \frac{12}{15}$$

Cross-Multiply.

The cross-products should be equal to each other.

Writing Proportions from a Table

Black Bean Soup

1.5 cups black beans

0.5 cup salsa

2 cups water

1 tomato

2 teaspoons seasoning

A chef increases the amounts of ingredients in a recipe to make a proportional recipe. The new recipe has 6 cups of black beans. Write a proportion that gives the number x of tomatoes in the

	Original Recipe	New Recipe
Black Beans		
Tomatoes		

Writing Proportions from a Table

Aidan spent 6 dollars on 2 downloaded songs last month. This month he bought 3 songs. Write a proportion that would help figure the total cost he spent this month.

	Last Month	This Month
Purchased		
Total Cost		

Solving Proportions Mentally

Solve the missing variable in the proportion mentally.

$$1) \frac{3}{2} = \frac{x}{8}$$

$$2) \frac{8}{5} = \frac{n}{15}$$

Practice

Solve the missing variable in the proportion mentally.

$$3) \frac{5}{8} = \frac{20}{d}$$

$$4) \frac{7}{z} = \frac{14}{10}$$

$$5) \frac{21}{24} = \frac{x}{8}$$

Writing and Solving Proportions

There are 27 students in a classroom. If the ratio of girls to the total amount of students is 1:3, how many girls are there in the class?

Practice

The ratio of quarts to gallons is 4:1. If a recipe calls for 36 quarts, how many gallons would be needed?